

REMARKS

Reconsideration and allowance of this application are respectfully requested. Claim 1 has been amended. Claim 8 has been canceled. New claim 9 has been added¹. Claims 1, 4-7 and 9 are pending in the application. The rejections and objections are respectfully submitted to be obviated in view of the amendments and remarks presented herein.

Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 1 and 4-7 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to provide reasonable enablement.

Applicant has amended claim 1 to improve clarity. However, Applicant respectfully submits that the claimed “seal plate which directly seals the exhaust hole” is disclosed in the specification at least in FIG. 4, in which an exemplary embodiment of the invention is shown whereby a seal plate (56) directly seals an exhaust hole (48). Thus, reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, are respectfully requested.

Rejection Under 35 U.S.C. § 103(a) - Morimoto et al., Nakano et al. and further in view of Nakayama

Claims 1, 5 and 6 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Morimoto et al. (U.S. Patent Number 4,770,310; hereinafter “Morimoto”), Nakano et al. (U.S. Patent Number 6,313,579; “Nakano”) and further in view of Nakayama (U.S. Patent Number 6,257,945; “Nakayama”). The rejection is respectfully traversed.

¹ Support for the claim amendments is found in the specification on at least page 7, lines 9-16 and FIG. 4.

Regarding claim 1, the claimed flat display panel comprises, *inter alia*, an exhaust hole and a seal plate which directly seals the exhaust hole tightly by heat securing the seal plate directly to a side of the sheet of substrate on which the exhaust hole is provided.

The Examiner has already admitted on page 3 of the Office Action that Morimoto fails to disclose explicitly a seal plate formed of pressed frit. Furthermore, Morimoto also fails to teach or suggest a seal plate which “directly seals the exhaust hole,” the seal plate being heat-secured “directly to a side of the sheet of substrate on which the exhaust hole is provided,” as recited by claim 1 (emphasis added). As shown in FIG. 4 of Morimoto, the planar plate lid member (28) does not directly seal the exhaust hole, nor is Morimoto’s planar plate lid member (28) heat-secured directly to a side of the sheet of substrate on which the exhaust hole is provided, as claimed. On the contrary, a seal for Morimoto’s evacuation hole (26) is only created by using a sealer (27) applied to the read cover (21) and which bonds the planar plate lid member (28) to create a seal (column 4, lines 11-20). Thus, Morimoto’s planar plate lid member (28) is not heat-secured directly to a side of the substrate to seal the evacuation hole (26).

Nakano does not remedy the deficiencies of Morimoto. Although the Examiner alleges that it would have been obvious to substitute the sealer (27) and planar plate lid member (28) of Morimoto with Nakano’s seal bonding member (20) formed of molded crystalline glass powder, such a substitution would not be possible. Nakano teaches a seal bonding member (20) as shown in FIG. 2, which hermetically bonds a chip tube (11) to a glass substrate (1). One of ordinary skill in the art, when considering Morimoto, could only possibly substitute Morimoto’s sealer (27) which is a solder material, with the molded crystalline glass powder as taught by Nakano.

As Nakano's bonding member (20) is only used to bond the chip tube (11), the bonding member (20) is nothing more than a bonding agent / sealer which enables the chip tube (11) to adhere to the glass substrate (1).

Thus, one of ordinary skill may only possibly derive a teaching to substitute the sealer (27) of Morimoto with the seal bonding member (20) as taught by Nakano, such that the planar plate lid member (28) may be bonded to the rear cover (21) by use of Nakano's seal bonding member (20). The planar plate lid member (28) of Morimoto, however, is a separate part distinct from the sealer (27), and there is no motivation or for that matter any teaching or suggestion to replace both Morimoto's planar plate lid member (28) and sealer (27) with Nakano's bonding member (20). Therefore, the hypothetical combination of Morimoto and Nakano would only result in a planar plate lid member (28) bonded to the rear cover (21) by means of Nakano's seal bonding member (20). This hypothetical combination still would not teach or suggest the claimed seal plate which "directly seals the exhaust hole," the seal plate being heat-secured "directly to a side of the sheet of substrate on which the exhaust hole is provided," as recited by claim 1 (emphasis added).

Furthermore, Nakayama does not remedy the deficiencies of Morimoto and Nakano. Although Nakayama teaches a calcinated solid frit (16) as shown in FIG. 7, Nakayama is solely used to teach that a calcined solid frit (16) may be used to stop up a constricted portion (21) of a glass tube (15). There is also no teaching or suggest in Nakayama of a seal plate which "directly seals the exhaust hole," the seal plate being heat-secured "directly to a side of the sheet of substrate on which the exhaust hole is provided," as recited by claim 1 (emphasis added).

Therefore, Morimoto, Nakano and Nakayama all fail to teach or suggest, either alone or in combination, “a seal plate which directly seals the exhaust hole, ... wherein the exhaust hole is sealed tightly by heat-securing of the seal plate directly to a side of the sheet of substrate on which the exhaust hole is provided, the seal plate being formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate,” as recited by claim 1.

Furthermore, Applicant notes that although the Examiner states on pages 4-5 and 8 of the Office Action that “[t]he recitations of ‘seal plate prepared by press-molding and calcining the molded plate’ and ‘seal plate is sealed tightly by heat-securing’ describe the method of forming the flat display panel and is not germane to the issue of patentability of the panel itself,” these elements are not recited by any of Applicant’s claims. However, all of the elements that are recited relate structurally or compositionally to the claimed flat display panel, and are thus germane and should be given their due patentable weight in consideration.

At least by virtue of the aforementioned differences, Applicant’s claim 1 distinguishes over Morimoto and Nakano in view of Nakayama. Applicant’s claims 5 and 6 are dependent claims including all of the elements of independent claim 1, which as established above, distinguish over Morimoto and Nakano in view of Nakayama. Therefore, claims 5 and 6 are patentable over Morimoto and Nakano in view of Nakayama for at least the aforementioned reasons as well as for their additionally recited features. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) are respectfully requested.

Rejection Under 35 U.S.C. § 103(a) - Morimoto et al., Nakano et al., Nakayama and further in view of Nakatake et al.

Claim 4 has been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Morimoto, Nakano, Nakayama and further in view of Nakatake et al. (U.S. Patent Number 6,827,623; “Nakatake”). The rejection is respectfully traversed.

As discussed above, Morimoto, Nakano and Nakayama all fail to teach or suggest, either alone or in combination, “a seal plate which directly seals the exhaust hole, ... wherein the exhaust hole is sealed tightly by heat-securing of the seal plate directly to a side of the sheet of substrate on which the exhaust hole is provided, the seal plate being formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate,” as recited by claim 1.

Nakatake does not remedy the deficiencies of Morimoto, Nakano and Nakayama. Nakatake discloses a method of manufacturing plasma display panels, and includes a teaching that a shaped glass frit (119) (as shown in FIG. 11) has a high infrared absorption rate. The Examiner has used Nakatake’s teaching to suggest using frit having a high infrared absorption rate. However, there is also no teaching or suggestion in Nakatake of a seal plate which “directly seals the exhaust hole,” the seal plate being heat-secured “directly to a side of the sheet of substrate on which the exhaust hole is provided,” as recited by claim 1 (emphasis added).

Therefore, Morimoto, Nakano, Nakayama and Nakatake all fail to teach or suggest, either alone or in combination, “a seal plate which directly seals the exhaust hole, ... wherein the exhaust hole is sealed tightly by heat-securing of the seal plate directly to a side of the sheet of

substrate on which the exhaust hole is provided, the seal plate being formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate,” as recited by claim 1.

At least by virtue of the aforementioned differences, Applicant’s claim 4 distinguishes over Morimoto, Nakano and Nakayama in view of Nakatake. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) are respectfully requested.

Rejection Under 35 U.S.C. § 103(a) - Morimoto et al., Nakano et al., Nakayama and further in view of Tsunoda et al.

Claim 7 has been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Morimoto, Nakano, Nakayama and further in view of Tsunoda et al. (U.S. Patent Number 5,914,531; “Tsunoda”). The rejection is respectfully traversed.

As discussed above, Morimoto, Nakano and Nakayama all fail to teach or suggest, either alone or in combination, “a seal plate which directly seals the exhaust hole, ... wherein the exhaust hole is sealed tightly by heat-securing of the seal plate directly to a side of the sheet of substrate on which the exhaust hole is provided, the seal plate being formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate,” as recited by claim 1.

Tsunoda does not remedy the deficiencies of Morimoto, Nakano and Nakayama. Tsunoda discloses a semiconductor device which includes resin sealing of the chips/board so as to protect from moisture (column 7, lines 42-49). The Examiner has used Tsunoda only to provide a teaching of resin sealing a circuit board. However, there is also no teaching or

suggestion in Tsunoda of a seal plate which “directly seals the exhaust hole,” the seal plate being heat-secured “directly to a side of the sheet of substrate on which the exhaust hole is provided,” as recited by claim 1 (emphasis added).

Therefore, Morimoto, Nakano, Nakayama and Tsunoda all fail to teach or suggest, either alone or in combination, “a seal plate which directly seals the exhaust hole, ... wherein the exhaust hole is sealed tightly by heat-securing of the seal plate directly to a side of the sheet of substrate on which the exhaust hole is provided, the seal plate being formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate,” as recited by claim 1.

At least by virtue of the aforementioned differences, Applicant’s claim 7 distinguishes over Morimoto, Nakano and Nakayama in view of Tsunoda. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) are respectfully requested.

Rejection Under 35 U.S.C. § 103(a) - Peng, Nakano et al., Nakano et al. and further in view of Nakayama

Claim 1 has been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Peng (U.S. Patent Number 5,797,780), Nakano and further in view of Nakayama. The rejection is respectfully traversed.

The Examiner has already admitted on page 7 of the Office Action that Peng fails to exemplify a seal plate formed of pressed frit. Furthermore, Peng also fails to teach or suggest a seal plate which “directly seals the exhaust hole,” the seal plate *being heat-secured* “directly to a side of the sheet of substrate on which the exhaust hole is provided,” as recited by claim 1

(emphasis added). As shown in FIGS. 4-6 of Peng, the glass frits (18) has a glass plate (17) adhered to it and the assembly is mounted onto a holder (16). The assembly is driven towards an exhaust aperture (9) by manipulating a glass plunger (14). The glass frits (18) blocks the aperture opening (9) to form a sealed plug which overflows to bond to the inside and outside surfaces of the back glass panel (1b) (column 4, lines 5-36). Likewise, Peng's glass plate (17) adheres only to the glass frits (18) (column 4, lines 14-15 and FIGS. 4-6). Therefore, Peng fails to teach or suggest a seal plate formed of pressed frit, and also fails to teach or suggest a seal plate heat-secured directly to a side of a sheet of substrate on which an exhaust hole is provided.

Nakano does not remedy the deficiencies of Peng. Although the Examiner alleges that it would have been obvious to substitute the glass plate (17) of Peng with Nakano's seal bonding member (20) formed of molded crystalline glass powder, such a substitution would not be possible. Nakano teaches a seal bonding member (20) as shown in FIG. 2, which hermetically bonds a chip tube (11) to a glass substrate (1). There is absolutely no motivation found in either Peng or Nakano to substitute Peng's glass plate (17) with Nakano's bonding member (20), as the two elements relate to totally different components. Nakano's bonding member (20) is only used to bond the chip tube (11), the bonding member (20) is nothing more than a bonding agent / sealer which enables the chip tube (11) to adhere to the glass substrate (1). In an unrelated vein, Peng's glass plate (17) is a sealing plate substrate which overlaps the aperture opening (9) and is adhered to the glass frits (18). There lacks any motivation or obviousness to replace Peng's glass plate (17) with a substance such as a bonding agent as taught by Nakano's bonding member (20).

Therefore, Peng in view of Nakano does not teach or suggest the claimed seal plate which “directly seals the exhaust hole,” the seal plate being heat-secured “directly to a side of the sheet of substrate on which the exhaust hole is provided,” as recited by claim 1 (emphasis added).

Furthermore, Nakayama does not remedy the deficiencies of Peng and Nakano. Although Nakayama teaches a calcinated solid frit (16) as shown in FIG. 7, Nakayama is solely used to teach that a calcined solid frit (16) may be used to stop up a constricted portion (21) of a glass tube (15). There is also no teaching or suggest in Nakayama of a seal plate which “directly seals the exhaust hole,” the seal plate being heat-secured “directly to a side of the sheet of substrate on which the exhaust hole is provided,” as recited by claim 1 (emphasis added).

Therefore, Peng, Nakano and Nakayama all fail to teach or suggest, either alone or in combination, “a seal plate which directly seals the exhaust hole, ... wherein the exhaust hole is sealed tightly by heat-securing of the seal plate directly to a side of the sheet of substrate on which the exhaust hole is provided, the seal plate being formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate,” as recited by claim 1.

At least by virtue of the aforementioned differences, Applicant’s claim 1 distinguishes over Peng and Nakano in view of Nakayama. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) are respectfully requested.

Newly Added Claim

Applicant has added new claim 9 to provide more varied protection for the present invention. Claim 9 is allowable based on at least its dependency, as well as for its additionally

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recited features. That is, the cited references do not teach or suggest, *inter alia*, that “the seal plate is formed in a shape of a large button having a diameter larger than a diameter of the exhaust hole,” as recited by claim 9.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER


Lenny R. Jiang
Registration No. 52,432

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